SAFELY MANAGED SANITATION IN SMALL TOWNS

Minutes of the tandem sessions, World Water Week 2017

This document reports on the two sessions on sanitation in small towns, which took place during the World Water Week 2017, on the Sunday 27th August, from 2:00-3:30pm and 4:00-5:30pm. These sessions were organised by Eawag-Sandec, GIZ, Gret, pS-Eau, SuSanA, WaterAid and the World Bank.

Summary

Session 1: Lessons from recent experiences

Session moderators: Anna Kristina Kanathigoda (GIZ) & Christophe Le Jallé (pS-Eau)

Session schedule:

14:00-14:15	Introduction - Colette Génevaux (pS-Eau)
14:15-14:25	Flash presentations of the 6 case studies
14:25-15:10	Marketplace setting - 3 rounds of 15 minutes 1) Sanitation planning for small towns in Nepal - Mingma and Anjali Sherpa (500B Solutions Nepal) and Christoph Lüthi (Eawag-Sandec) 2) Support of local actors in Senegal, Mauritania and Madagascar – Marion Santi (GRET) 3) Utility-to-utility capacity support in Ethiopia - Bethlehem Mengistu (WaterAid) and Rémi Kaupp (WaterAid) 4) Economies of scale for small town sanitation: the SISAR and COPANOR models from Brazil - Maria Angelica Sotomayor (World Bank) and Alceu Galvão (Ceará State, Brazil) 5) Evaluation of treatment options using a decision-making tool in Morocco (Martin Gambrill, World Bank) 6) Small town sanitation management - the important role of local government - Rosemary Nakaggwa (GIZ Uganda), Prit Salian (I-San consulting), Cecilia Rodrigues (GIZ), Charles Shindaile (SWSC, Zambia), Abraham Moobola (Choma Municipal Council, Zambia), Daniel Bothma (GFA)
15:10-15:30	Wrap-up & validation of the discussion topics for session 2

Introduction: why we should talk about small towns

How to define a small town

It is difficult to give a definition of small towns, especially if this definition aims to have an international scope:

- Small towns refer to human settlements that are smaller than these of urban and peri-urban areas (such as cities and secondary towns) but bigger than rural settlements;
- Small towns' core economy can be diverse: they can be highly dependent on big cities with an economy developed on the tertiary sector, or can also be oriented towards the agricultural economy if located in a rural area;
- Sanitation services vary as well: they can include sewer systems as well as on-site sanitation; emptying can include manual desludging as well as mechanised desludging;
- As rural villages evolve into small towns, the legal/administrative/institutional context of small towns are often still 'rural' in nature, whereas the sanitation and water supply services they require are increasingly 'urban'.

As the characterisation between urban settings and rural area is very dependent on the national context, a definition based only on the population size of small towns is misleading. Therefore, as a non-restrictive estimate, we initially provided a range of 3,000 to 100,000 inhabitants for the case studies used in these sessions. Rather than the definition of small towns, the focus of the sessions is

given on the similar characteristics that small towns share, and how to develop sustainable sanitation services in these contexts.

Why we should care about small towns

Small towns are home to a major part of the world population

As a UN Habitat report highlighted, "between 20 to 50% of the population in most low and middle-income countries lived in small urban centres or large villages with small urban centres characteristics" in 2000[1]. These figures are still relevant today[2], especially since small towns have the biggest growing rate[3].

The lack for sanitation services in small towns

Small towns are often too small to have conventional sanitation infrastructures such as sewerage, but are also too big to benefit from the sanitation approaches used in rural areas: sanitation services are therefore often non-functional or inexistent in small towns, despite public health issues raised by the lack of sanitation in settlements of this size and density. Additionally, sanitation markets are fragmented, unregulated and the private sector involvement in sanitation services is minimal due to low economies of scale.

Meeting SDG6 in small towns

With regard to the new 2030 Agenda, small towns represent a major challenge for reaching SDG6 and especially target 6.2 and 6.3: these areas are often neglected by development actors but of high importance to reach universality of services. Sanitation services for small towns will also require adapting to their singularities in order to design financially viable services that include the safe management of excreta.

Objectives of the tandem sessions

- What **experiences** of full sanitation chain in small towns do we know?
- Identify the **common challenges** that small towns face
- Which **solutions** can be applied and where?

Photo: manual desludging with a Gulper in Rosso.
Credit: EnHaut

[1] See p.11 Meeting development goals in small urban centres. Water and sanitation in the world's cities 2006, UN Habitat

[2] See https://esa.un.org/unpd/wup/Publications/Files/WUP2014-Report.pdf for more recent data from 2014

[3] http://www.susana.org/en/resources/library/details/1019

The lessons from experience: six case studies of sanitation in small towns

1) Sanitation Planning for Small Towns in Nepal

Presenters and rapporteurs at the session: Mingma and Anjali Sherpa (500B Solutions Nepal) and Christoph Lüthi (Eawag-Sandec)

Project organisations and partners: ADB/Government of Nepal - Third Small Town Water Supply and Sanitation Sector Project, Eawag-Sandec, 500B Solutions

Setting	Tikapur, Terai Region, Nepal Population ~ 55,000
Initial sanitation situation	High existing on-site sanitation coverage (92% own household toilets) but total lack of sanitation service chain (emptying, transport, treatment) in Tikapur
Short description of the activities	- Testing of new state-of-the-art planning tools for Nepal: SFDs, GIS, KoBo Toolbox surveys, etc. - Close collaboration with ADB's Third Small Towns Programme for 26 towns in Nepal (MoU signed).
Identified key challenges	- Weak urban sanitation policies at the national level, non-existence of guidelines or laws at the local level - Weak institutional capacities of municipal authorities (no trained human resources dealing with sanitation, lack of long-term plans)
Lessons learned	- Mass awareness is needed to disseminate concept of city wide sanitation planning - More hands-on guidance material is needed - also in localized (Nepali) versions - Lack of know-how on "new" area of FSM and sludge handling at all levels: national, district, municipal but also private sector
Resources	Nepal Water Supply, Sanitation and Hygiene Sector Development Plan (2016 – 2030). DWSS, Govt. of Nepal

2) Local actors of sanitation and waste management - Innovation in Madagascar and Mauritania

Presenter and rapporteur at the session: Marion Santi (Gret)

Project organisations and partners: Gret, Rosso Municipality

Setting	Rosso, Trarza Region, Mauritania Population ~ 50,000, including 45,000 inhabitants in the main city and 5,000 in the 46 villages around the city Foulpointe, Madagascar Population ~ 5,000
Initial sanitation situation	In Rosso : - Overall a toilet coverage of 73%, but only 30% in some areas - High level of the water table, low infiltration of wastewater - Emptying service are inefficient (both mechanical and manual) and there is no treatment facilities In Foulpointe: - Touristic area with pressured land and high water table - High demand for hygienic sanitation access and emptying services
Short description of the activities	- Sanitation diagnosis - Support to improve the technical capacities of manual emptying services - Support to improve the sanitation service management capacities of municipal authorities - Implementation of a treatment plant
Identified key challenges	- Finance sustainability regarding the service including treatment - Low levels of municipal human resources for sanitation services
Lessons learned	- Improving manual emptying service comes not only from providing materials but also from the training and the recognition of this activity - Political willingness is key - Participatory planning requires trained local authority, who are willing to take a leadership role on the subject - Monitoring by municipality is a challenge but also a necessity. Once the service is running, local authority must take on the monitoring activities - Finding compromises between a diversity of actors is a challenge, but also a necessity for the service sustainability - Low cost technologies can provide a sustainable and hygienic sanitation service in small cities - Manual emptying can provide a service of quality
Resources	GRET (2017) *Développer des services durables de gestion des eaux usées et des déchets dans les petites villes : les acteurs locaux ont un rôle à jouer !* (in French)

3) Utility-to-utility capacity support for 20 Ethiopian towns

Presenters and rapporteurs at the session: Bethlehem Mengistu (WaterAid), Rémi Kaupp (WaterAid)

Project organisations and partners: WaterAid (UK & Ethiopia) with Yorkshire Water, Municipalities, University of Leeds

Setting	Ethiopia - 20 small towns in total but for sanitation chiefly: Axum (47,000 inhabitants), Bishoftu (130,000), Bure (27,000), Hassawa (350,000), Bahir Dar (318,000) and Holleta (58,000)
Initial sanitation situation	- Shit-Flow Diagrams (SFDs) show that typically 15 to 30% of faecal matter is not treated, except in Hawassa (75% safely contained in pits) - There is usually a poor sanitation service: no or unreliable emptying, and non-functioning treatment
Short description of the activities	Since 2014, WaterAid has organised a "twinning" relationship between the utilities of 20 towns in Ethiopia and Yorkshire Water (UK utility), to provide capacity support in selected areas (non-revenue water, revenue collection, customer relationships, tariffs, etc.). This paved the way for further engagement on sanitation, through the preparation of Shit-Flow Diagrams with the University of Leeds to assess the situation.
Identified key challenges	- Lack of capacity and funds to address sanitation, and water is usually a higher priority - No clear ideas for on-site sanitation given the prevalence of the sewer mindset - Open waste dumping and a lack of enforcement for illegal dumping
Lessons learned	- The initial capacity support was focused on water but helped create trust between the partners, understand the utility managers' issues, and raise revenue. All these were useful to move on to sanitation. - The SFD engagement helped utilities realise the extent of the problem, identify possible quick wins, and realise the need to work on on-site sanitation. - SFDs uncovered hidden local initiatives such as sludge reuse as soil conditioner, the presence of scavengers, and possible drivers of improvements like tourism in larger towns. - Conducting the initiative in just a few towns has been enough to trigger interest in the rest of the 20 towns and start work on sanitation planning.
Resources	- Bure SFD - Axum SFD - Bahir Dar SFD - Bishoftu SFD - Holleta SFD

4) Improved services by formation of service delivery associations with appropriate economies of scale: the SISAR and COPANOR models from Brazil

Presenters and rapporteurs at the session: Maria Angelica Sotomayor (World Bank) and Alceu Galvão (Ceará State, Brazil)

Project organisations and partners: COPANOR - Minas Gerais state government and state utility; SISAR - Ceará state government and KfW

Setting	Ceará and Minas Gerais states in Brazil - small towns of 20-200 households
Initial sanitation situation & identified key challenges	In the past, the statewide water supply and sanitation (WSS) utilities in these states had difficulty in sustainably operating WSS services in the small, isolated communities, which fell within their service delivery areas. Many of the WSS systems that were built in these communities in a participatory, 'demand driven' fashion often fell into disrepair a year or so after construction when the social capital imparted as part of the planning and construction process gradually dissipated and the Water User Associations consequently failed to keep the systems running.
Short description of the activities	The SISAR model has been in place in Ceará state for two decades: its approach is to create a 'Federation of Water Users Associations' in a sub-region, under the auspices of which daily operation and maintenance of the systems is carried out by the local operator. Other functions, which benefit from an agglomeration of scale (heavy maintenance, procurement of reagents and spare parts, water meter calibration, training of operators, billing, social capital capacity building, etc), are centralized under the Federation (called the 'SISAR'). SISAR communities have universal provision of metered household connections; sanitation systems include condominial sewers and lagoon treatment systems, communal septic tanks or household level onsite solutions. The COPANOR model in Minas Gerais state was established some ten years ago through the creation of a subsidiary of the state water utility, COPASA, which allowed for a differentiated salary structure for COPANOR staff and tariffs tailored to the reality of poor, isolated households. COPANOR provides all customers with metered household connections and simplified sewerage services with wastewater treatment by a combined UASB-lagoon system. Both SISAR and COPANOR services are run with the philosophy of professionalized utilities, with indicator-based management and decision making, annual business plans, key performance indicators, a concern for fully covering operation, maintenance and replacement costs through user tariffs, etc.
Lessons learned	Tailoring the structure of the utilities/service providers to fit these small towns was necessary. Even within the revised institutional structures, an emphasis was still placed on professionalized service delivery, indicator-based management and decision-making, and running cost recovery through tariffs. The new models use a mix of local technicians for day-to-day operations and centralized expertise to achieve economies of scale for heavy maintenance, procurement, training, billing, etc.

5) Application of a decision-making tool for the evaluation of non-conventional wastewater treatment options in Morocco

Presenter and rapporteur at the session: Martin Gambrill (World Bank)

Project organisations and partners: ONEE, World Bank

Setting	Morocco - small towns <25,000 people A story of innovation and gradual improvements/adaptation to the changing context of small towns wastewater management in Morocco. This context is largely characterized by what Morocco is set to do in urban/small town sanitation through its National Sanitation Masterplan, which aims for a 90% collection, 90% treatment rates, as well as 100% reuse by 2030. The government started by working with sanitation in larger towns first, and slowly moved into increasingly smaller towns, requiring adjustments along the way on technology choice, operating, financing strategies, the increasingly important role of social teams and communication, etc. Some examples of interventions include: - The town of Hattane (11,000 people) which went for a completely mixed aerated lagoon; - The town of El Ksiba (20,000 people) went for a traditional anaerobic/facultative/polishing scheme, but covered the anaerobic lagoons for odour control; - There are also cases of towns using ponds, some with "innovative" pilots trying to address issues such as performance, algae in effluents, odour release, etc.
Initial sanitation situation	- 70% of Morocco's urban population is connected to sewerage networks, but only 36% of wastewater is treated - ONEE (the national service provider) has noted problems in the performance of their wastewater treatment plants (WWTPs), in particular linked to poor O&M, exacerbated by temperature conditions, leading to the presence of algae and odours. - Ambitious goals to connect the rest of the urban population and move towards 100% reuse, as well as the need to cope with population growth, have brought ONEE to the conclusion that they needed to consider alternative wastewater treatment solutions for small towns that are more adapted to the Moroccan context.
Short description of the activities	ONEE's approach to applied research and innovation led them to feel comfortable with piloting new technologies for small towns wastewater treatment at scale, including a complete-mix aerated lagoon redesigned with the new design guidelines adapted to the Moroccan context. They are now also considering exploring the use of Upflow Anaerobic Sludge Blanket (UASB) digesters through an ongoing South-South conversation that started a few years back with the Brazilian utility CAESB; the World Bank project has financed a UASB design manual and trained ONEE in their design.

	ONEE also developed a wastewater treatment technology decision tool for small towns specific to the Moroccan context, as a result of the need to not only improve the technologies that they were using, but to also seek alternative outside of the current menu of treatment technologies available to them. While ONEE have not used the tool for every decision made since it was developed, they have demonstrated a systematic approach to addressing the wastewater treatment needs of smaller and smaller agglomerations. The decision-making tool was developed to help ONEE and the municipalities in charge of operating and maintaining small town WWTPs identify alternatives to poorly functioning anaerobic and facultative ponds, that would meet the local conditions better, in particular in terms of the space, labor and energy requirements, as well as the performance of the technology compared to local needs. This tool defines specific evaluation criteria and weights, and walks the reader through examples for an array of options applicable in Morocco, including justifications for their prioritization.
Identified key challenges	ONEE realized that the aerated and anaerobic ponds widely used for big and small towns alike were not performing as designed and so they sought to create Morocco-specific design and operation manuals for aerated lagoons and anaerobic ponds to improve performance and consequently save on CAPEX and OPEX costs. As a consequence of this review, ONEE created a pilot program to find simple solutions to retrofit/improve the performance of old anaerobic and facultative pond systems, such as by employing floating plastic discs to cover ponds for odour prevention, building wind breaks, using rock filters to eliminate excess algae in the effluents, etc. These were financed by the World Bank funded project. There was also a need to take a look at all wastewater treatment technologies and make sure that they were considering all options for their small towns (rather than just replicating technology choices from larger towns). This observation led to the development of a small town wastewater treatment technology decision tool, specific to Morocco. This type of decision-making support tool is useful but very context specific – therefore it needs to be carefully adapted if other localities are to learn from this process. Moreover, the tool provides a comparison grid for the critical evaluation of different technologies in the Moroccan context, but does not supplant the strategic planning process that should happen at the small town level for sustainable sanitation services. In the case of Morocco, despite the government's ambitious goal to go to full reuse, the legal and institutional setting is currently not prepared to promote and implement reuse. Though this was built in the tool as a criterion, further engagement would be needed in Morocco for reforms to enable reuse to be part of the sanitation chain formally and safely.
Lessons learned	Since the tools are context-specific, they require the involvement of local technicians and decision-makers who can advise on the characteristics to take into account in evaluating each technology. Having decision-makers on board from the beginning helps ensure that the criteria and evaluation conclusions meet local demand and can be incorporated into future planning.

	Because small towns host a mix of urban and rural behaviours, the processes of transferring land for sanitation purposes and convincing people to connect to the sewerage network can be challenging, causing delays and low buy-in in sanitation initiatives. Citizen engagement is particularly important in this context. The long-term engagement of the World Bank over a number of years, through a series of projects, has helped ONEE think through the evolution of the wastewater management, treatment and reuse sector generally, and for small towns in particular. South-South knowledge exchanges can help countries address such sector challenges by bringing in new approaches and thinking.

6) Small town sanitation management - the important role of local government (Uganda, Zambia)

Presenters and rapporteurs at the session: Rosemary Nakaggwa (GIZ Uganda), Ivan Biiza (MWE Uganda), Prit Salian (I-San Consulting), Cecilia Rodrigues (GIZ), Charles Shindaile (SWSC, Zambia), Abraham Moobola (Choma Municipal Council, Zambia), Daniel Bothma (GFA)

Project organisations and partners: GIZ, MWE Uganda, I-San Consulting

Setting	Lessons from small town sanitation planning in Uganda and Zambia Size of towns ranges from 5-50,000
Initial sanitation situation	As small towns grow, previously (semi-) rural settings change towards urbanized, densely populated settings and unimproved sanitation systems become even more threatening to public and environmental health. Most households in small towns (85-95 %) rely on unlined pit latrines and very few households have access to emptiable toilets, which poses a major problem for emptying and treatment of faecal material. Official coverage rates are often misleading as households rely on unsustainable on-site facilities and/or the sanitation chain is not looked at as a whole. No or insufficient treatment facilities especially for faecal sludge from on-site sanitation facilities result in illegal or inappropriate discharge of sludge. Private sector involvement in service provision is usually limited and/or informal and - depending on the size of towns and sanitation coverage - viability of potential private businesses questionable. Small towns often face very limited financial and technical capacities at local government level with few or ineffective governing structures for sanitation (e.g. inadequacy of laws, by-laws, tariffs, infrastructure standards, enforcement). Most households (70-80%) in small towns have an income level of US$ 0.65 to 1.50, which makes it difficult for them to invest in sanitation related improvements.
Short description of the activities developed	Integrated urban sanitation planning for sustainable infrastructure development and management focuses on: - Developing capacities for and mainstreaming of sanitation service provision and infrastructure development at local government level - Introducing governing structures (e.g. laws, by-laws and standards) especially for FSM - Developing low-cost designs for emptiable toilets to promote FSM and developing a subsidy-based household financing model - SFD as a tool for stakeholder involvement, data validation, prioritization of interventions, advocacy - Creating demand for improved sanitation and supporting small-/medium-sized private businesses in entering the sanitation market

Identified key challenges	- Low income levels and high lending interest rates from the banks make it challenging for households to invest in sanitation - Low human capacities with unclear responsibilities, intransparent decision-making, incomplete transition of powers from district local governments and a sever deficit in finances at local government level - Limited awareness of decision makers or unrealistic expectations/ tendency towards off-site sanitation solutions whilst a majority of people rely on (unimproved) on-site sanitation and limited access to water supply - Small towns make small sanitation markets, thus economies of scale and viable private sector involvement are difficult to realise
Lessons learned	- Local governments are crucial stakeholders, who often hold the official mandate to address the sanitation chain as a whole, including creating the enabling environment for private sector service provision - Integrated sanitation planning brings together all relevant stakeholders to pool resources - Working with local governments in long-term partnerships (minimum of 3 to 5 years), supporting them on improving governance, creating demand on household/institutional level and developing a viable market for the private sector is key - At the same time, such governing structures and demand (existence of some emptiable facilities) are often minimum requirements to access funding/projects for (FSM) infrastructure - Public FSM and investment in public treatment facilities is needed to increase both demand on household level and private sector service provision - Public financing is paramount for improving sanitation in small towns and developing appropriate financing model for household sanitation is one of the cornerstones to improve FSM in small towns. - To achieve economies of scale for FSM, several towns in the near vicinity (40-60 km radius) could be clustered. Every cluster can then be provided with a emptying and treatment service

Wrap-up of the market place

The different challenges identified by the presentations highlighted the specificity of context of small towns. The case studies were at different points of the project cycle, some presenting recently planned initiatives, whereas other experiences having been under implementation for two decades. A positive point that came out from the discussion was that most of the initiatives presented were thinking about the whole sanitation service chain for small towns.

In most cases, the weak institutional framework appeared to be a major challenge: municipalities with no mandate, unclear responsibilities, etc. In the case of Nepal, the new context of devolution had a big impact on the implementation of the programme.

Photo: mechanical emptying in Mali.
Credit: Eawag-Sandec

The different experiences also reported the struggle to bring the topic of sanitation to the forefront, as water supply is often seen as a priority compared to sanitation. In Ethiopia, water projects were used to bring the attention to sanitation issues.

Building capacity was key in all case studies. In Madagascar and Mauritania, permanent capacity building of local authority' knowledge was found essential for decision-making and planning. The Brazil service delivery models also place a premium on continual capacity building and solid service providers with trained staff. Faecal Sludge Flow Diagrams (or 'SFDs') were used in several contexts (Ethiopia, Nepal, Uganda, Zambia) in order to strengthen stakeholder involvement, for advocacy, data validation and prioritization of interventions. The SISAR and COPANOR models in Brazil also provide frameworks for the professionalization of the sanitation services being supplied.

The discussions highlighted that experience sharing between small towns was an opportunity for the development of sanitation services: in the Ethiopian and Moroccan case studies, small towns got inspiration from exchanges with Brazil. The need for more South-South exchanges and learning was also identified.

Several participants raised the question of the financial viability of small towns, wondering which economy of scale made possible the sustainability of sanitation services in a territory. The discussions showed that we need more ways of doing financial comparisons and assessments for the proposed solutions. The regionalized models of service provision from Brazil are designed around finding the correct agglomeration balance that allows for the sustainable management of services at scale for small towns.

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At the end of the session, participants were invited to choose three topics out of a list of nine, which were discussed at the following session. 33 participants voted using an online poll. The results were as follow:

Topics	**Answers**
Financial viability of sanitation services in small towns	22
What are the incentives for small towns to develop sanitation services?	14
Capacity building for sanitation service in small towns	12
Intergovernmental coordination: how do the different level of governance work together?	11
Links between sanitation & water supply services in small towns	9
Role & responsibilities of municipalities	9
Small towns and the private sector	7
Match between policies and practice in planning and implementing sanitation	6
How does the singularity of small towns impact decision-making?	5

Session 2: Key challenges under scrutiny

Session moderators: Rémi Kaupp (WaterAid) and Martin Gambrill (WorldBank)

Session schedule:

16:00-16:10	Introduction – Rémi Kaupp (WaterAid)
16:10-16:15	Flash presentations of the 3 discussion topics
16:15-17:00	3 rounds of fishbowl discussions 1) Capacity building for sanitation service in small towns 2) Financial viability of sanitation services in small towns 3) What are the incentives for small towns to develop sanitation services?
17:00-17:30	Wrap-up & last conclusion words – Martin Gambrill (World Bank)

In this session, participants were invited to join one of the three groups, the discussion topics for which had been chosen at the previous session. The participatory debates were facilitated in the form of a fishbowl discussion, where people willing to speak were invited to replace speakers in the middle of the fishbowl. Every 15 minutes, participants were invited to move to another group.

1) Capacity building for sanitation services in small towns

Facilitator: Christoph Lüthi (Eawag-Sandec)

Context & identified challenges for capacity building

Small town contexts present a weak framework for capacity building, including a 'brain drain' of trained people, the lack of incentives and weak local politics.

Past approaches, such as workshops, toolboxes and theoretical training colleges, have failed to deliver effective training for sustained capacity.

Solutions?

The discussion highlighted the need to focus on stakeholders willing to stay in small towns (rather than complaining about those who leave). For example, the idea of mapping these committed actors was mentioned.

Participants agreed on the need to focus on economies of scale rather than only on a single small town. Some promising approaches from Brazil, India and Ethiopia, all central or state government driven, were discussed.

Self-learning and collaboration between small towns, at national and regional level, were also presented as a way to close the gap between dynamic towns and the ones lagging behind, with the idea of strengthening cross-fertilization. For example, the virtual University in Brazil reached municipal staff through e-learning.

2) Financial viability of sanitation services in small towns

Facilitators and rapporteurs at the session: Christophe Le Jallé (pS-Eau), Prit Salian (I-San Consulting), Samuel Renggli (Eawag-Sandec)

Faecal sludge emptying services in the small town setting

Mechanical emptying in small towns below 100,000 inhabitants is not always financially viable for private operators. This has been demonstrated with evidence gathered in Uganda. The solution in Uganda was to cluster five towns within 30 km distance to one faecal sludge catchment area. The financial viability of the Uganda model was challenging for the private sector at distances of more than 10 km or with greater than 30 minutes travel time. However, with a well-functioning state agency undertaking the emptying service combined with treatment plant operations, the viability could be achieved.

There is less money available in small towns (smaller salaries, fewer people, fewer job opportunities) but often very big distances (due to the peri-urban character of these towns). Therefore, big vacuum trucks are not an optimal option. Decentralised small-scale treatment can be a viable alternative approach, but in most cases, the ability of local governments to buy land is poor.

Emptying of faecal sludge in small towns is often more difficult, due to poorly constructed pit latrines and septic tanks, which aren't easily emptied – for example, pit latrines are often unlined. Toilets with standardized pit or septic tank designs should thus be promoted.

Treatment plants

A strong constraint for the implementation of treatment plants is the availability of land.

Another constraint in the running cost per capita of a treatment plant. One of the solution could be as developed in Uganda to have a plant shared between towns, but with the difficulty of the length of transportation already mentioned earlier.

How to finance services

In Zambia, sanitation services are subsidised through a tariff on the water bill for sewerage (20%) for people with sewerage connection and a tariff for sanitation (2.5%) for everyone.

In India (Sinar city), emptying is no longer on demand but scheduled, and each pit is emptied every 3 years. The customers pay a yearly sanitation tax to the government. The government, through a competitive bidding process, licenses a private operator and pays them - leading to a lucrative business and happy customers and government.

Another question that was discussed was: taxes or tariffs for financing sanitation services?

Generally, subsidies should be given for sub-structures to promote standard toilet facilities that are easier to empty, and super-structures should be financed by the households. Revolving funds could further help to finance systems. We should also think about other incentives to build toilets and household sanitary systems of high quality. Often funds are there for CAPEX, but small towns don't always have the wherewithal to access them. Sometimes, they only need some assistance to get funds from national or international sanitation funds. If CAPEX is spent wisely, the OPEX should normally be low.

Acquiring land becomes expensive, especially for donor driven projects, as prices can go up if people know that donors are buying land.

Technologies

Transfer stations and alternative semi-mechanised emptying systems could lower the costs for emptying and conveyance of faecal sludge. Technologies should be adapted to small town settings and be simpler. This would also reduce the costs.

Adopting modular approaches, instead of using one big solution in the beginning can help to build services where they are needed and that work, however this is often not preferred by donors and municipalities, as they are afraid of only getting the funding on a singular occasion for sanitation and then being subsequently overlooked.

Management models

Use centralised management (small town associations or utilities) to bring an economy of scale, and decentralised technologies (modular approaches with small-scale systems) to react to population growth and keep transport distances low.

3) What are the incentives for small town to improve sanitation?

Facilitator: Marion Santi (Gret)

Incentives can be directed at three different types of actor:

- Individual: incentive for households to get hygienic toilets or to use improved sludge management services, or for employees from sanitation service providers to improve their performances of service provision.
- Public authority: incentives directed to local authorities to improve sanitation by investment, regulation, etc.
- Local private sector entities

The main incentive for all types of actors is of financial nature, but it is not the only one (or at least not always directly financial in nature). Money can be an incentive: through subsidies for household to get the installations, for employees to do a better job and for private sector to invest or to deliver a better service. Some national/state governments provide funding for municipalities to undertake sanitation projects.

Some participants shared the experience of competition organised between cities to have the best sanitation (e.g. competition for the cleanest city). Aspiration, desire to model other city/person, emulation between individual/collective seem to get good results, once a dynamic is created.

Creating links between sanitation and other services is an effective way for a municipality to improve sanitation.

Environmental concerns, as well as tourism, are also effective incentive to individuals and municipalities in specific contexts, as it is seen as a lever for improving business and the economy.

A lively debate took place on the potential for revenue from resource recovery in sanitation. Some participants argued that it is the only way to achieve sustainable sanitation, whereas others maintained that, to date, there were no examples of covering OPEX with revenues from resource recovery for the entire sanitation chain – for Capex it is more challenging still. In best-case scenarios, resource recovery was seen to cover some 30% of OPEX, although it usually lies between 15-20%.